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Analysis Of Investor Rationality Towards Stock Price Index And Optimal Portfolio In Go Public Company Shares On The Indonesian Stock Exchange

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Abstract

This study aims to determine the existence of investor rationality in choosing optimal stocks and portfolios by using a single index model on company shares listed on the IDX in 2018. The type of research used is analytic research. This analytic study aims to draw general conclusions and prove hypotheses about the average difference of two independent samples. The data used are secondary data obtained from information released by the Indonesia Stock Exchange including the daily closing stock price and the daily closing stock price index of listed companies. The sample selection method used is purposive sampling, where the sample selection is done on the basis of the researchers' consideration. the number of samples used in this study were 30 samples.
The results showed that there was investor rationality towards optimal ownership of shares and portfolios by using a single index model on stocks listed on the Indonesia Stock Exchange during the weakening period of the rupiah in 2018 (t count value of 2.16 or greater than t value of α of 2.13). This can be seen from the difference in the average stock trading volume where the average trading volume of the optimal portfolio candidate shares is greater than the average trading volume of shares not the optimal portfolio candidate.

Keywords : Investor Rationality, Share Ownership and Optimal Portfolio

INTRODUCTION

In general, investment is an investment in one or more assets owned and usually for a long period of time with the hope of making a profit in the future (Sunariyah, 2003:4). Broadly speaking, investment consists of two parts, namely investment in the form of real assets (real assets) and investment in the form of securities or securities (financial assets). Often investors who invest in securities or securities are faced with various alternatives. Do you invest in the capital market by buying shares in companies listed on the stock exchange, or do you invest by buying fixed income securities such as bonds?

Investment is always related to the risks that will be faced, whether investing in real assets or securities. Investment risk is closely related to the possibility of obtaining profits that are smaller than expected. The greater the opportunity for profit, the riskier the investment. Which alternative an investor will choose depends on the investor's attitude in viewing the risks they will face and the expected level of profit (Sunardi, 2005:1). Investors who are willing to bear risks in order to get certain expected returns usually choose to buy company shares on the capital market.

Expectations about the role of the capital market as an alternative for investors are influenced by many factors (Lestari, 2003:1). One of the determining factors according to Bawazier and Sitanggang (1994:35) is the level of investors' ability to choose shares rationally. Investors' rationality can be measured by the extent to which they succeed in choosing shares that provide maximum returns at certain risks and is also influenced by investors' preferences for different returns and risks. Investment decisions in shares are related to future expectations and are uncertain, giving rise to the risk of inaccuracy between expectations and reality regarding the income obtained from the investment (Lestari, 2003:2). Thus, there are two

aspects inherent in investment, namely the expected rate of return and the risk of not meeting the expected return.

There are various ways that can be used to deal with risk in investment (Husnan, 1996). One investor strategy to minimize the risk of investing in shares is to combine or diversify shares in a portfolio. Investors are generally interested in diversifying and forming portfolios because diversification can reduce risk. If a share's value falls, while another share's value rises, then the losses and profits will compensate for each other.

The possible portfolios that can be formed from a combination of risky assets and risk-free assets available in the market are endless. If there are an unlimited number of possible portfolios, the question will arise as to which portfolio the investor will choose. If investors are rational, then they will choose the optimal portfolio (Jogiyanto, 2003). To determine the optimal portfolio, the first thing needed is to determine an efficient portfolio. An efficient stock portfolio is a portfolio that produces a certain level of profit with the lowest risk or an optimal level of profit at a certain risk (Husnan, 1994).

In carrying out portfolio analysis, a number of calculation procedures are required using a number of data as input for the portfolio structure. William Sharpe (1995) developed a model called the single-index model. This model is used to simplify the calculations of the Markowitz model (1952) by providing the input parameters needed in the Markowitz model calculations. The single index model is based on the observation that the price of a security fluctuates in the same direction as the market price index. Elton and Gruber (1995) conducted a portfolio analysis with a single index of securities by comparing the Excess Return to Beta Ratio (ERB) of each stock with its Cut-off-Rate. The Cut-off-Rate (C1) itself is a comparison between the market return variance and the sensitivity of individual stock returns to the stock error variance. Stocks that have an ERB greater than C1 are used as portfolio candidates. Conversely, if the ERB value is smaller than C1 then the stock is not included in the portfolio.

One event that contains this information is the weakening of the rupiah exchange rate throughout 2018. In the world of investment, the currency exchange rate is one of the factors that investors pay close attention to when making investment decisions. In general, a weakening rupiah exchange rate will encourage exports because Indonesian-produced goods become cheap when priced in other countries' currencies, provided the products are produced with local components. A healthy exchange rate is an exchange rate that considers macroeconomic factors. It is difficult for business people or investors to estimate economic activities when the exchange rate is too volatile and uncertain.

The weakening of the rupiah exchange rate throughout 2018 is considered to have worried capital market investors. Even in October, the rupiah exchange rate weakened to its lowest point in the last five years. In several trades, the weakening of the Rupiah exchange rate was one of the causes of net selling by foreign investors on the stock exchange and caused the Composite Stock Price Index (IHSG) to be corrected lower over a long period of time. This has an impact on the behavior of stock investors who are starting to stay away from stocks that have the potential to lose money due to the weakening of the rupiah by selling.

Based on the description above, by using the stages of Elton and Gruber's analysis above, the researcher is interested in conducting research to determine the rationality of investors in share ownership and the optimal portfolio of shares from companies included in the stock index listed on the Indonesia Stock Exchange when the Rupiah weakened in 2018 with the title "Investor Rationality Analysis of Stock Price Indexes and Optimal Portfolios in Shares of Go Public Companies on the Indonesian Stock Exchange".

METHOD

This research design is a reference in planning and implementing research to obtain an overview of stock prices, the composite stock price index and exchange rates. The type of research used is analytical research. This analytical research aims to be able to draw general conclusions and prove the hypothesis

regarding the difference in the averages of 2 independent samples.

The place for carrying out this research is the Indonesian Stock Exchange. The Indonesian Stock Exchange (Indonesia Stock Exchange) is the party that organizes and provides a system and means for bringing together securities buying and selling offers from other parties. This research was carried out in the period January 2018 - September 2018.

The data used is secondary data obtained from information released by the Indonesia Stock Exchange including daily closing share prices and daily closing share price indexes from listed companies, share trading volumes included in the research target and also interest rate data on Bank Indonesia Certificates (SBI). which is a free risk return. Data collection methods include, among others, obtained through:

1. Library Approach: data collection is carried out indirectly or by studying books and literature compiled by experts and published by certain institutions as well as previous research related to this research, then a conclusion will be drawn .

2. Documentation Approach: data collection is carried out by looking for sources of documents needed to discuss the problem or object to be studied

The population used in this research is all shares of companies listed on the Indonesian Stock Exchange. The sample selection method used was purposive sampling, where sample selection was carried out based on the researcher's considerations. Purposive sampling method with judgment sampling type with the criteria used in sample selection being shares of companies listed consistently on the Indonesia Stock Exchange during the observation period, namely January 2018 - September 2018 which belong to various sectors. Based on these observations, there are 627 company shares listed on the Indonesian Stock Exchange. Meanwhile, the number of samples used in this research was 30 samples. This is done because many samples have data with a value of 0, so it is necessary to separate them. Data that has a value of 0 can make the data pattern abnormal so the data needs to be separated.

In this research, the data analysis techniques used are:

1. Selection of data and statistical depiction of data

2. Test the average difference between 2 paired samples

3. Method for Determining the Optimal Portfolio Using a Single Index Model

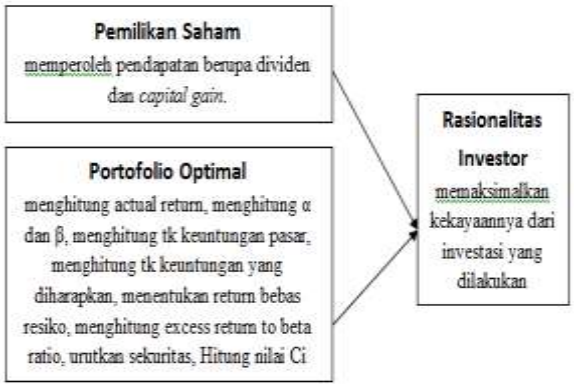

Figure 1 Research Design

The research hypothesis proposed in this study is as follows:

• Ho: There is no investor rationality regarding share ownership and an optimal portfolio using a single index model for shares listed and Go Public on the Indonesian Stock Exchange during the weakening of the rupiah in 2018.

Ha: There is investor rationality regarding share ownership and optimal portfolios by using a single index model for shares listed and Go Public on the Indonesian Stock Exchange during the weakening of the rupiah in 2018.

• Ho : $\mu 1 < \mu 2$: The average trading volume of shares that are candidates for the optimal portfolio is smaller than or equal to the average trading volume of shares that are not candidates for the optimal portfolio.

Ha: μ1 > μ2: The average trading volume of shares that are candidates for the optimal portfolio is greater than the average trading volume of shares that are not candidates for the optimal portfolio.

RESULT

Table 1. Descriptive Analysis

Bulan	Jumlah sampel	Mean	Median	Varians
Jan	30	7748.581	2900	149618500.1
Feb	30	8708.000	3370	189921324.1
Mar	30	8228.968	3570	157022840.2
Apr	30	7735.774	3220	136562167.6
Mei	30	7323.935	3010	120805905.7
Jun	30	7772.290	2600	143659589.1
Jul	30	7242.129	2060	126180297.9
Ags	30	7416.710	2150	128032298.2
Sep	30	9415.968	2200	255300618.4

Based on the table above, it can be seen that the smallest average closing price for 30 companies occurred in July, namely 7,242,129, while the largest average closing price was 9,415,968. variance explains the spread or diversity of data. The greater the variance value, the more diverse the research data. Based on the table above, it can be seen that the highest data diversity occurred in September while the lowest data diversity occurred in May.

Determining candidate and non-candidate shares for an optimal portfolio is carried out by calculating the value of the expected profit level (E(Ri)), Beta, Variance and Excess Return to Beta Ratio (ERBi) of each share as well as the risk-free return and variance of the return. market index to find the constant values Ai and Bi. Based on calculations of the constant values Ai and Bi for each share, the Ci value is obtained. Next, the largest Ci value is determined as the cut off rate (C*), which is 0.002564838. After that, the ERBi value at point C* is compared with the other ERBi values. An ERBi value that is greater than ERBi at point C* is a candidate for the optimal portfolio. As can be seen in table 2, it can be seen that there are 15 companies that are candidates for the optimal portfolio.

Table 2. Optimal Portfolio Candidate Stocks

No	Kode	Saham Perusahaan	Nilai ERB_i	Nilai ERB_i di titik C*
1	AKRA	AKR Corporindo Tbk	-0.009572	-0.092742
2	AMRT	Sumber Alfaria Trijaya Tbk	0.008436	-0.092742
3	ASGR	Astra Graphia Tbk	0.094612	-0.092742
4	SCMA	Surya Citra Media Tbk	-0.022744	-0.092742
5	UNTR	United Tractors Tbk	-0.048912	-0.092742
6	ASII	Astra International Tbk	-0.017683	-0.092742
7	BATA	Sepatu Bata Tbk	-0.069832	-0.092742
8	BRAM	Indo Kordsa Tbk	-0.091694	-0.092742
9	BRPT	Barito Pacific Tbk	-0.084080	-0.092742
10	FASW	Fajar Surya Wisesa Tbk	0.243407	-0.092742
11	INDF	Indofood Sukses Makmur Tbk	-0.000660	-0.092742
12	MLBI	Multi Bintang Indonesia Tbk	0.094634	-0.092742
13	POWR	Cikarang Listrindo Tbk	5.589460	-0.092742
14	TOTO	Surya Toto Indonesia Tbk	0.266774	-0.092742
15	UNVR	Unilever Indonesia Tbk	-0.058853	-0.092742

To determine the percentage of ownership of each share in the optimal portfolio, the proportion (wi and zi values) of these shares is calculated. The calculation results show the proportion and percentage of share ownership that forms the optimal portfolio can be seen in table 3 below:

Table 3. Optimal Portfolio Share Ownership Proportions and Percentages

No	Kode	Saham Perusahaan	Zi	Wi	Wi (%)
1	AKRA	AKR Corporindo Tbk	-0.2111	0.0147	1.4702
2	AMRT	Sumber Alfaria Trijaya Tbk	0.0934	-0.0065	-0.6506
3	ASGR	Astra Graphia Tbk	-0.1987	0.0138	1.3835
4	SCMA	Surya Citra Media Tbk	-0.4783	0.0333	3.3307
5	UNTR	United Tractors Tbk	-0.6948	0.0484	4.8381
6	ASII	Astra International Tbk	-1.0249	0.0714	7.1373
7	BATA	Sepatu Bata Tbk	-0.6083	0.0424	4.2363
8	BRAM	Indo Kordsa Tbk	-0.5145	0.0358	3.5825
9	BRPT	Barito Pacific Tbk	-0.4179	0.0291	2.9098
10	FASW	Fajar Surya Wisesa Tbk	-0.2496	0.0174	1.7384
11	INDF	Indofood Sukses Makmur Tbk	-0.5686	0.0333	3.3341
12	MLBI	Multi Bintang Indonesia Tbk	-0.1899	0.0132	1.3225
13	POWR	Cikarang Listrindo Tbk	-0.3344	0.0233	2.3288
14	TOTO	Surya Toto Indonesia Tbk	-0.3274	0.0228	2.2798
15	UNVR	Unilever Indonesia Tbk	-0.4135	0.0288	2.8798

The table above shows that the largest ownership proportion is Astra International TBK shares with 7.1373% and the smallest ownership is Sumber Alfaria Trijaya TBK shares with 0.6506%.

Testing investors' rationality in selecting shares and optimal portfolios used the difference between two means test for independent samples with the t test. Investors are considered rational if the average trading volume of shares of companies that are optimal portfolio candidates is greater than the average trading volume of shares of companies that are not optimal portfolio candidates. On the other hand, investors are considered irrational if the average trading volume of shares of optimal portfolio candidate companies is smaller than or equal to the average trading volume of shares of companies that are not optimal portfolio candidates. A recapitulation of the average share trading volume can be seen in table 4.

Table 4. Average Stock Market Volume

No	Kode	Rata-rata Volume Perdagangan (juta rupiah)	No	Kode	Rata-rata Volume Perdagangan
1	AKRA	285,298	16	INDY	620,54(
2	AMRT	1,350,811	17	ITMG	705,64
3	ASGR	1,630	18	JPFA	612,50(
4	JTPE	14,892	19	MAIN	231,71(
5	SCMA	706,374	20	MBAP	4,96
6	TURI	1,523	21	MERK	84
7	UNTR	2,904,498	22	MLBI	278,97
8	ASII	5,450,365	23	POWR	31,50
9	AUTO	13,755	24	PSSI	7,15
10	BATA	60	25	SIDO	63,86
11	BRAM	10	26	SMSM	122,12
12	BRPT	320,861	27	TOTO	5,13
13	FASW	147,199	28	TOWR	109,33
14	ICBP	541,709	29	UNIC	7(
15	INDF	937,072	30	UNVR	2,436,48

Hypothesis test that carried out using the difference between two means test with the t test on monthly stock trading volume, it is known that the calculated t value is 2.16 or greater than the tα value of 2.13, which means ho is rejected and ha is accepted. This shows that there is a difference in the average trading volume of shares where the average trading volume of shares of optimal portfolio candidates is greater than the average trading volume of shares that are not optimal portfolio candidates.

On the basis of these calculations it is known that ho which states that there is no investor rationality regarding share ownership and an optimal portfolio using a single index model for shares listed on the Indonesian stock exchange during the weakening of the rupiah in 2018 is rejected and ha which states that there is investor rationality on share ownership and optimal portfolio using a single index model on shares listed on the Indonesian stock exchange during the weakening of the rupiah in 2018. So it can be concluded that investors have rationally selected shares and optimal portfolios or it can be said that there is investor rationality regarding share ownership and optimal portfolios using a single index model for shares listed on the Indonesian stock exchange during the weakening of the rupiah in 2018.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of data analysis and discussions carried out, the conclusions obtained are as follows:

1. There are 15 shares included in the optimal portfolio candidates, namely AKRA, AMRT, ASGR, SCMA, UNTR, ASII, BATA, BRAM, BRPT, FASW. INDF, MLBI, POWR, TOTO, UNVR.

2. There are 15 shares that are not optimal portfolio candidates, namely JTPE, TURI, AUTO, ICBP, INDY, ITMG, JPFA, MAIN, MBAP, MERK, MLBI, SIDO, SMSM, TOWR, UNIC.

3. Based on the results of the data analysis that has been carried out, it can be concluded that there is investor rationality

regarding share ownership and an optimal portfolio using a single index model for shares listed on the Indonesian Stock Exchange during the weakening of the rupiah in 2018. This can be seen from the existence of The difference in average stock trading volume, where the average stock trading volume of optimal portfolio candidates is greater than the average stock trading volume of non-optimal portfolio candidates, is in accordance with the results of hypothesis testing using the difference of two means test with the T test.

T TEST CALCULATION RESULTS SHOW THAT T CALCULATE > T TABLE (T CALCULATE VALUE OF 2.16 OR GREATER THAN T A VALUE OF 2.13).

The advice that can be given based on research is that with investors' rationality towards share ownership and an optimal portfolio during the weakening rupiah in 2018, for investors who tend to avoid risks in investing, these shares are a good choice for investing in the capital market.

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